

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Lascar POPOVICI

Serial No. (unknown)

Filed herewith

METHOD AND SYSTEM OF  
VECTORIAL CARTOGRAPHY

PRELIMINARY AMENDMENT

Commissioner for Patents

Washington, D.C. 20231

Sir:

Prior to the first Official Action and calculation of the filing fee, please amend the above-identified application as follows:

IN THE TITLE:

Replace the title with the following new title:

"METHOD AND SYSTEM OF VECTORIAL CARTOGRAPHY"

IN THE ABSTRACT:

Please delete the Abstract as originally filed which appears on page 26. Add new Abstract as enclosed herewith on a separate sheet.

IN THE CLAIMS:

Amend claim 3 as follows:

--3. (Amended) A method of retrieving an object according to Claim 1, characterized in that it comprises in addition

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storage of a list of matrix codes with a pointer to the first object of each code.--

Amend claim 4 as follows:

--4. (Amended) A method of retrieving an object according to Claim 1, characterized in that selection of the objects is effected by a cursor which passes through the list of matrix codes.--

Amend claim 8 as follows:

--8. (Amended) A method of retrieving an object according to Claim 1, characterized in that it comprises:

-a first stage (1) comprising:

-definition of a matrixing M, a sort of the objects of the set of the objects by increasing or decreasing order of their matrix code  $\cap_{p_{1j}}$ , with  $i = 1, \prod (\text{depth})$  and  $j = 1, p_1$  (number of the mesh in the grid of depth i).

-definition of the matrixing M comprising selection of the grids;

-sorting of the objects of the set by increasing or decreasing order of their matrix code  $\cap_{p_{1j}}$ , with

$i = 1, \prod (\text{depth})$  and  $j = 1, p_1$  (number of the mesh in the grid of depth i) and

- a second stage (2) of searching for the v objects contained in the search domain  $\delta$  forming the subset  $\omega$ , comprising:

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-a search of the "active" meshes (active matrix codes), which are affected by the search domain  $\delta$ .  
-for each active matrix code  $\cap_{p_{ij}}$ , a search of the corresponding objects and verification, for the said corresponding objects only, of membership of the search domain  $\delta$ .--

Amend claim 9 as follows:

--9. (Amended) A method of retrieving an object according to Claim 1, characterized in that the stage (1) of the definition and sorting of objects is carried out once and for all in a data domain, the results of the said stage (1) of definition and sorting of objects being loaded into a reading device, and in that the search stage (2) is to be executed each time a search is requested.--

Amend claim 15 as follows:

--15. (Amended) Electronic apparatus, in particular equipment for communication and/or navigation, employing the method of vectorial cartography according to Claim 11.--

Amend claim 16 as follows:

--16. (Amended) A data medium containing vectorial cartography data processed by the method of vectorial cartography according to Claim 11.--

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R E M A R K S

Attached hereto is a marked-up version of the changes made to the title and claims by the current amendment. The attached page is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE."

Respectfully submitted,

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# "METHOD AND SYSTEM OF VECTORIAL CARTOGRAPHY"

A method of retrieving an object contained in a domain  $\delta$  within a space  $\Delta$  containing a set of objects described in an initial matrix  $M$ , including construction of a subset  $\omega$  of objects contained in the domain  $\delta$  by extracting a matrix  $\mu$  from the initial matrix  $M$ . A matrixing  $M$  of the space  $\Delta$  is created by superimposing a large number of geometric matrices with different specifications  $\rho$ , each one of the meshes of each geometric matrix being identified by a unique and specific numerical value called a matrix code. The matrix  $M$  is sorted by matrix codes according to a predetermined order, with specifications  $\rho$ . Then the extraction matrix  $\mu$  is constructed, describing only the objects affected by the meshes included in domain  $\delta$  or intersected by domain  $\delta$ .

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"VERSION WITH MARKINGS TO SHOW CHANGES MADE."

The title has been amended as follows:

~~"Method of searching for an object within a space, method and system of vectorial cartography incorporating this search technique, electronic apparatus employing this method of vectorial cartography, and a medium for vectorial cartography data obtained by the said method"~~ "METHOD AND SYSTEM OF VECTORIAL CARTOGRAPHY"

Claims 3,4,8,9, 15 and 16 have been amended as follows:

--3. (Amended) A method of retrieving an object according to ~~one of Claims~~ Claim 1 ~~or 2~~, characterized in that it comprises in addition storage of a list of matrix codes with a pointer to the first object of each code.--

--4. (Amended) A method of retrieving an object according to ~~one of the preceding claims~~ Claim 1, characterized in that selection of the objects is effected by a cursor which passes through the list of matrix codes.--

--8. (~~Amend~~Amended) A method of retrieving an object according to ~~any one of the preceding claims~~ Claim 1, characterized in that it comprises:

-a first stage (1) comprising:

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-definition of a matrixing M, a sort of the objects of the set of the objects by increasing or decreasing order of their matrix code  $\cap_{p_{ij}}$ , with  $i = 1, \prod$  (depth) and  $j = 1, p_1$  (number of the mesh in the grid of depth i).

-definition of the matrixing M comprising selection of the grids;

-sorting of the objects of the set by increasing or decreasing order of their matrix code  $\cap_{p_{ij}}$ , with

$i = 1, \prod$  (depth) and  $j = 1, p_1$  (number of the mesh in the grid of depth i) and

- a second stage (2) of searching for the v objects contained in the search domain  $B\delta$  forming the subset  $\omega$ , comprising:

-a search of the "active" meshes (active matrix codes), which are affected by the search domain  $\delta$ .

-for each active matrix code  $\cap_{p_{ij}}$ , a search of the corresponding objects and verification, for the said corresponding objects only, of membership of the search domain  $\delta$ .--

--9. (Amended) A method of retrieving an object according to ~~any one of the preceding claims~~ Claim 1, characterized in that the stage (1) of the definition and sorting of objects is carried out once and for all in a data domain, the results of the said stage (1) of definition and sorting of objects being loaded into a reading device, and in that the

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search stage (2) is to be executed each time a search is requested.--

--15. (Amended) Electronic apparatus, in particular equipment for communication and/or navigation, employing the method of vectorial cartography according to ~~one of the~~  
~~claims~~ Claim 11 to 13.--

--16. (Amended) A data medium containing vectorial cartography data processed by the method of vectorial cartography according to ~~one of Claims~~ Claim 11 to 13.--